



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/716,392	11/20/2000	Thomas G. Houman	USG-3368	8631

7590

06/03/2003

Donald E Egan
Attorney at law
273 Stonegate Road
Clarendon Hills, IL 60514

EXAMINER

SHOSHO, CALLIE E

ART UNIT	PAPER NUMBER
----------	--------------

1714

10

DATE MAILED: 06/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/716,392

Applicant(s)

HOUMAN ET AL.

Examiner

Callie E. Shosho

Art Unit

1714

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 March 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 4-13, 18 and 19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 4-13, and 18-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 3/14/03 has been entered.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Art Unit: 1714

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1, 4-13, and 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takaoka et al. (U.S. 6,063,472) in view of Andersen et al. (U.S. 6,180,037).

Takaoka et al. disclose a composition comprising 0.5-18% resin and 70% or less aggregate particles such as calcium carbonate which have particle size of 0.03-2 mm which clearly overlaps the requirement in the present claims that the particles pass through a 30 mesh, i.e. 0.6 mm, screen and are retained on a 50 mesh, i.e. 0.3 mm, screen. The aggregate particles form a layer with a thickness of 0.1-3 mm or 0.004-0.118 inches. It is disclosed that the resin increases adhesion strength, i.e. functions as a binder (col.4, lines 29-42, col.5, lines 5-6, 9-10, 12-15, 43-53, and 58-63, col.6, lines 14-17, and col.9, lines 23-30).

As defined on page 5, lines 1-3 of the present specification, a drying-type composition is one that contains calcium carbonate filler. Given that Takaoka et al. disclose the use of calcium carbonate (col.3, lines 46-47), it is clear that the composition is dryable as presently claimed. Further, given that Takaoka et al. disclose composition identical to that presently claimed including particle size of aggregates, it is clear that the composition is intrinsically sprayable.

The difference between Takaoka et al. and the present claimed invention is the requirement in the claims (a) of the number of aggregate particles per square inch and (b) that the composition is settable.

With respect to difference (a), Andersen et al., which is drawn to sheets prepared from composition comprising binder and aggregate particles, disclose that particle packing is a primary factor for designing the desired requirements for the final product such as workability, stability, shrinkage, bulk density, elasticity, etc. and further disclose that the particle packing density of the aggregate greatly affects the rheology and workability of the composition. For instance, the more closely packed the particles, the less liquid required to fill the interstitial space between the particles which in turn affects the rheological properties of the composition such as workability (col.21, lines 50-60 and col.36, line 44-col.37, line 4).

In light of the above, it therefore would have been obvious to one of ordinary skill in the art to choose how to space the aggregate particles and thus, the number of particles used per square inch, including that presently claimed, in Takaoka et al. in order to produce a composition with the desired properties such as workability, stability, shrinkage, bulk density, elasticity, etc., and thereby arrive at the claimed invention.

With respect to difference (b), it is noted that page 5, lines 3-4 of the present specification define a setting-type composition as one which comprises calcium sulfate hemi-hydrate. Takaoka et al. is silent with respect to the use of such compound.

Andersen et al., which is drawn to sheets prepared from composition comprising binder and aggregate particles, disclose the use of gypsum hemihydrate, i.e. calcium sulfate hemihydrate, as an aggregate in order to impart binding and strength to the composition (col.26,

Art Unit: 1714

lines 63-67 and col.27, lines 17-22) as well as affect the rheology of the composition (col.37, lines 30-38).

In light of the motivation for using gypsum hemihydrate disclosed by Andersen et al. as described above, it therefore would have been obvious to one of ordinary skill in the art to use such aggregate in the composition of Takaoka et al. in order to produce a settable composition with good adhesion and strength as well as suitable rheology, and thereby arrive at the claimed invention.

Response to Arguments

5. Applicants' arguments and declaration filed 3/14/03 have been fully considered but they are not persuasive.

Specifically, applicants argue that Takaoka et al. do not disclose the specific particle size range for the aggregate as required by all of the present claims.

It is noted that the present claims require that the aggregate consist of at least 90% of particles passing a 30 mesh screen (approximately 584 μm) and at least 90% particles retained on a 50 mesh screen (approximately 305 μm) while Takaoka et al. disclose that the aggregate has average particle size of 0.03-2 mm or 30-2000 μm . Thus, the particle size disclosed by Takaoka et al. appears to completely overlap the range presently claimed. As set forth in MPEP 2144.05, in the case where the claimed range "overlap or lie inside ranges disclosed by the prior art", a *prima facie* case of obviousness exists, *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990).

While there are no examples which disclose aggregate with particle size as presently claimed, "applicant must look to the whole reference for what it teaches. Applicant cannot merely rely on the examples and argue that the reference did not teach others", *In re Courtright*, 377 F.2d 647, 153 USPQ 735,739 (CCPA 1967). Given that Takaoka et al. disclose aggregate particle size which completely overlaps that presently claimed, it therefore would have been obvious to one of ordinary skill in the art to choose aggregate with particle size, including that presently claimed, and thereby arrive at the claimed invention.

Applicants also argue that given Takaoka et al. do not disclose aggregate particle size as presently claimed and given that the number of aggregate particles per square inch depends on aggregate particle size, Takaoka et al. cannot disclose number of aggregate particles per square inch as presently claimed.

However, as stated above, it is the examiner's position that Takaoka et al. do in fact disclose aggregate particle size as presently claimed. Further, Takaoka et al. disclose that the aggregate particles form layer of thickness that overlaps that presently claimed. Thus, for a given area, the coating of Takaoka et al. would possess the same number of particles ((area x thickness)/volume of aggregate particle) as the coating of the present invention. While there is no disclosure of the aggregate particle density, i.e. number of aggregate particles present per square inch, in Takaoka et al., Andersen et al. teach that particle packing is a primary factor for designing the desired requirement for the final product such as workability, stability, shrinkage, bulk density, elasticity, etc. and further disclose that the particle packing density of the aggregate greatly affects the rheology and workability of the composition. For instance, the more closely

packed the particles, the less liquid required to fill the interstitial space between the particles which in turn affects the rheological properties of the composition such as workability.

Further, it is noted that page 4, lines 6-8 of applicants' amendment states that it is the layer of particles of the presently claimed thickness which provides applicants' composition with the self-gauging property. Thus, given that Takaoka et al. disclose aggregate which possesses particle size as presently claimed and forms aggregate layer with thickness as presently claimed, it is not clear why the composition would not intrinsically possess self-gauging property.

Clarification is requested.

Thus, given that Takaoka et al. disclose the same number of particles as present in the instant invention and in light of the motivation of Andersen et al. for closely packing aggregate particles, it would have been obvious to one of ordinary skill in the art that when the particles in Takaoka et al. are closely packed the number of aggregate particles per square inch would intrinsically fall within the values presently claimed.

Applicants argue that Anderson et al. do not disclose self-gauging composition or aggregate with particle size as presently claimed. However, Anderson et al. is used as teaching reference, and therefore, it is not necessary for this secondary reference to contain all the features of the presently claimed invention, *In re Nievelt*, 482 F.2d 965, 179 USPQ 224, 226 (CCPA 1973), *In re Keller* 624 F.2d 413, 208 USPQ 871, 881 (CCPA 1981). Rather this reference teaches a certain concept, namely, motivation regarding the packing of aggregate particles, and in combination with the primary reference, discloses the presently claimed invention.

In the office action mailed 12/17/02, examiner argued that although there was no disclosure in Takaoka et al. that the composition was self-gauging as presently claimed, given that Takaoka et al. disclose composition identical to that presently claimed, the composition would be capable of performing the intended use, i.e. self-gauging coating composition, as presently claimed.

In response, applicants have provided a declaration filed 3/14/03, Paper, No. 7. The declaration reproduces the composition of example 10 of Takaoka et al. It is shown that this composition does not provide any sort of self-gauging property and has inferior abuse resistance when measured by tests described in the present specification. However, the declaration is not persuasive for the following reasons.

In paragraph 5 of the declaration, applicants state that only examples 10 and 11 of Takaoka et al. employ an aggregate within the 0.02 to 0.05 inch (510 μm –1270 μm) range required by applicants. Examples 10 and 11 of Takaoka et al. disclose the use of mica aggregate having particle size of 700 μm while the present claims require that the aggregate consists of at least 90% of particles passing a 30 mesh screen (approximately 584 μm) and at least 90% particles retained on a 50 mesh screen (approximately 305 μm) while the thickness of the aggregate layer is 0.02-0.05 inches. However, it is noted that in example 10 of Takaoka et al., 700 μm is the average particle size of the aggregate, not the thickness of the aggregate layer. So it is not clear why applicants state that the aggregate of example 10, which possesses average particle size of 700 μm , falls within the 0.02 to 0.05 inch range required by applicants which refers to the thickness of the aggregate layer. Rather, it would appear that the aggregate of

example 10 falls outside the scope of the present claims wherein at least 90% of the particles have particle size less than 584 μm . Clarification is requested.

Thus, while the declaration does show that example 10 of Takaoka et al. produces a composition which does not provide any self-gauging property and has inferior abuse resistance, given that the aggregate in example 10 falls outside the scope of the present claims, one would not expect the composition to possess self-gauging property as presently claimed. As stated previously, it is the examiner's position that it is because Takaoka et al. disclose composition comprising resin binder and aggregate as presently claimed including amounts of binder and aggregate, size of aggregate, and thickness of aggregate layer as claimed, that the composition of Takaoka et al. would be capable of performing the intended use, i.e. self-gauging coating, presently claimed.

Applicants also state upon application of the composition to a gypsum wallboard, the composition did not provide any sort of self-gauging property due to lack of tight distribution of the particle sizes. However, given that the composition contains aggregate with particle size outside that presently claimed, one skilled in the art would not expect the composition to possess tight distribution of the particle sizes as found in the present invention. That is, if an aggregate were used in Takaoka et al. with particle size which falls both within the scope of Takaoka et al. and within the scope of the present claims (which is possible given that the aggregate particle size of Takaoka et al. completely overlaps that presently claimed) wouldn't a composition with self-gauging properties necessarily be formed? Clarification is requested.

Art Unit: 1714

Further, it is noted that example 10 of Takaoka et al. disclose the use of Polytlon resin emulsion while the declaration utilized Aquamac 454. Applicants have not stated what Aquamac 454 is and whether it is comparable to Polytlon used by Takaoka et al. Clarification is requested.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Callie E. Shosho whose telephone number is 703-305-0208. The examiner can normally be reached on Monday-Friday (6:30-4:00) Alternate Fridays Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 703-306-2777. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.



Callie E. Shosho
Examiner
Art Unit 1714

CS
May 31, 2003